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From: Meyer, Dan
To: Jacob Odekirk
Cc: Hardesty, Doug; Hedgpeth, Zach
Subject: RE: Follow-up to PM2.5 source test report for baghouses 2 and 3
Date: Thursday, November 12, 2020 3:49:00 PM
Attachments: pd baghouse testing - lumber throughput tracking.xlsx

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Thanks Jacob. EPA needs another conversation to help us through the first six bullet items below. This time, both Doug and I will be participating, and we're requesting a planer operator and Bison participate as well. I've attached an excel spreadsheet transcribing summary test report information highlighting follow-up questions. Our availability over the next week is as follows (pacific time zone):

Friday the 13th: 12 – 3 pm
Monday the 16th: 8 – 9 am, 10 – 11 am, 12 – 1 pm
Tuesday the 17th: 1 – 2 pm
Wednesday the 18th: 8 am – 3:30 pm, except 9:30 – 10 am
Thursday the 19th: 8 – 9 am, 11 – 1 pm
Friday the 20th: unavailable

Let us know what works for you and your team and we'll go from there. Thanks.

Dan Meyer
206.553.4150
Air Permit Writer
Air Permits and Toxics Branch, Air and Radiation Division, U.S. EPA Region 10
1200 Sixth Avenue, Suite 155, Mailcode 15-H13
Seattle, WA 98101-3188

From: Jacob Odekirk <Jacob.Odekirk@PotlatchDeltic.com>
Sent: Friday, October 16, 2020 2:28 PM
To: Meyer, Dan <Meyer.Dan@epa.gov>
Cc: Hardesty, Doug <Hardesty.Doug@epa.gov>; Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>
Subject: RE: Follow-up to PM2.5 source test report for baghouses 2 and 3

Dan,

My responses are below in red. It's worth noting that we do not use all of the parameters that the software provides.

Feel free to contact me with any questions or concerns.

Jacob Odekirk
Environmental Manager | PotlatchDeltic
O: (208) 245-7503 | C: (208) 568-1009

From: Meyer, Dan <Meyer.Dan@epa.gov>

Sent: Thursday, October 1, 2020 12:12 PM
To: Jacob Odekirk <Jacob.Odekirk@PotlatchDeltic.com>
Cc: Hardesty, Doug <Hardesty.Doug@epa.gov>; Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>
Subject: Follow-up to PM2.5 source test report for baghouses 2 and 3

[External Email] – Exercise caution with links and attachments.

Jacob,

Region 10 has reviewed the PM2.5 source test report for baghouses 2 and 3 as part of the project to revise the minor NSR permit for lumber dry kiln LK-6. We need some additional information to complete our review before updating the PM2.5 emission factors in Table 3-1 of the permit for units PCWR-PM-SH and PCWR-PM-SD as follows:

- Appendix D, pages 69-81, of the test report presents the plant operating records. A two-page Tally Sheet is included for each of the six test runs. Each Tally Sheet appears to cover one hour of operating records. While the sampling time of each test run is approximately 60 minutes divided by two stack traverses, the total time for a test run is longer than 60 minutes because it includes the actual sampling time for each traverse and some non-sampling time between traverses. Is it possible to provide Tally Sheets that cover the actual sampling times during each test run? The tally sheets cover the actual test times.
- Each Tally Sheet presents "Input Boards," "Sorted Boards," "All Slash" and "Rejects." Please explain what each label means and which production rate reflects the "volume of lumber entering the planer (board foot per hour)." "Input Boards" represents the "volume of lumber entering the planer (board feet per hour)". "Sorted Boards" is output from the planer. "All Slash" is a component of loss. "Rejects" are a component of loss. If you take "Input Boards" and "Sorted Boards" (output) the differential is the "Trimloss Factor".
- Each Tally Sheet presents "Operation Time," "Downtime" and "Operation Factor." Please explain what this data means. Downtime is the only parameter of these that we use. On these tally sheets, it is represent seconds, so it's hard to say how the system logged a few seconds of downtime, which could've been on startup. "Operation Time" is the run time. "Downtime" is the downtime. "Operation Factor" is the percentage of run time.
- If you can, please flag any test run sampling time during which the planer was not operating. The planer was operating during all of the test runs.
- Baghouse 3 collects emissions from the planed lumber trimmer, the trim ends chipper, the breakdown hoist and the infeed rolls dust generating activities. Do each of these activities operate all of the time that the planer operates? Yes. Can they operate when the planer is not operating? No. If the planer was not operating at any time during the six test runs, are there any records that would indicate whether any of these activities were operating during that time? No. If the planer was down, it would be downtime.
- Does Baghouse 2 collect emissions from any operation/activities other than the pneumatic conveyance of planer shavings to the cyclone pre-cleaner upstream from Baghouse 2? No.

Based upon the photographs on pages 9 and 10 of the report, it appears that BH-3 and/or BH-2 have been physically moved to accommodate installation of a cyclone pre-cleaner upstream of Baghouse 2.

- Are there other changes (other than installation of the cyclone upstream of BH-2) that may affect BH-2 and BH-3 stack parameters?
    - There are no other changes that would affect BH-2 or BH-3 stack parameters. The parameters reflected in the original permitting application and PM2.5 modeling analysis remain accurate, except that BH-3 stack height was increased by 10 feet to allow required performance testing. The current BH-3 stack height is 48 feet above ground level (previously modeled at 38 feet above ground level.)

- What is the new location of the relocated BH-2/BH-3 stack(s)?
    - The stack location of BH-2 remains the same as previously modeled, and the stack location of BH-3 is approximately 30 meters southwest of the location it was originally modeled. The stack locations are provided below in UTM coordinates (UTM Zone 11, and Datum NAD83), and the figure below shows the model and actual location of BH-3.

Baghouse ID	Data Source	UTM – X (m)	UTM – Y (m)
BH2	Model/Actual	531418.5	5241071.7
BH3	Model	531421.3	5241067.1
	Actual	531398.1	5241043.8

- To what degree, if any, have BH-2 and BH-3 stack parameters changed?
    - The source test results indicate the other model stack parameters (stack velocity and stack temperature) are similar to what was modeled. A comparison table is provided below, and the actual stack height, temperature, and velocity are higher (i.e., better dispersion) compared to the original modeling. Also, the actual BH-3 stack location is further away from the facility property boundary compared to the BH-3 location evaluated in the original modeling.

Baghouse ID	Data Source	Stack Height (m)	Temp (K)	Velocity (m/s)	PM2.5 (lb/hr)
BH2	Model	11.0	294.3	15.8	0.82

	2020 Test	11.0	293.7	15.2	0.0071
BH3	Model	11.6	294.3	14.3	0.74
	2020 Test	14.6	298.7	16.1	0.0051

- The stack testing results indicate the biggest change from the original PM2.5 modeling analysis is actual PM2.5 emissions from the baghouses are much lower than original estimates. As indicated in the table above, actual PM2.5 emissions are orders of magnitude smaller than the conservative assumptions included in the original modeling analysis. Overall, the original modeling analysis remains very conservative because actual PM2.5 emissions are less than 1% of the PM2.5 emissions included in the modeling analysis.

  Based on the significant decrease in PM2.5 emissions from the baghouses, it is very likely that the project would not have required minor NSR permitting for PM2.5 and a PM2.5 modeling analysis would not have been necessary (PM2.5 emission increases from the project would have been less than the 3 tpy minor NSR permitting threshold.)

If it makes it easier, just give me a call and maybe I can get what I need over the phone without a written response. Let me know.

Dan Meyer
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